IN THE CLAIMS:

Claims 1-16.(Cancelled)

17.(New) A method of detecting or quantifying a target nucleic acid having a predetermined sequence in a specimen comprising:

(a) preparing a probe A and a probe B,

said probe A being a first probe which has a sequence F' complementary to a first partial sequence F of the target nucleic acid and a binding molecule bound to the sequence F', and

said probe B being a second probe which has a sequence S' complementary to a second partial sequence S of the target nucleic acid and a flag bound to the sequence S', wherein said flag comprises four units SD, D0, D1, and ED, each having a desired sequence, and linked in the form of SD+ D0+ D1+ ED;

(b) hybridizing the first probe A with the first partial sequence F of the target nucleic acid and hybridizing the second probe B with the second partial sequence S of the target nucleic acid by mixing the first probe A, the second probe B, and the specimen;

(c) ligating the first probe A and the second probe B both being hybridized with the target nucleic acid, thereby obtaining a probe (A+B);

(d) binding the binding molecule to a substance which is paired up therewith, thereby recovering the probe (A+B);

(e) amplifying the nucleic acids constructing the flag by PCR, thereby performing an encode reaction;

(f) performing transcription of a sequence FL' complementary to the single-stranded flag sequence obtained by the encode reaction by use of two primers one of which is a

primer having another binding molecule and the other is a primer having a marker substance, thereby performing a decode reaction.

(g) binding said another binding molecule to a substance which is paired up therewith, thereby recovering the nucleic acid molecule obtained by the decode reaction; and

(h) detecting or quantifying the marker substance, thereby detecting or quantifying the target nucleic acid, wherein two of four units function as primers for PCR amplification.

18.(New) The method according to claim 17, wherein said probe A is any one of the probe groups A1 to An (n is an integer of 2 or more), said probe B is any one of the probe groups B1 to Bn (n is an integer of 2 or more), said partial sequence F is any one of partial sequences F1 to Fn, said sequence F' is any one of the sequences F1' to Fn' (n is an integer of 2 or more), said partial sequence S is any one of partial sequences S1 to Sn (n is an integer of 2 or more), said sequence S' is any one of the partial sequences S1' to Sn' (n is an integer of 2 or more), said D0 is any one of D01 and D0n (n is an integer of 2 or more), said D1 is any one of D11 to D1n (n is an integer of 2 or more), and said probe (A+B) is any one of probe groups (A1+B1) to (An+Bn)) (n is an integer of 2 or more).

19.(New) The method according to claim 18, wherein said decode reaction has the following steps:

(i) subjecting the single-stranded sequence encoded to a PCR using an SD sequence and an ED sequence as primers;

(ii) allowing a binding molecule bound to the SD sequence to bind to another substance which is paired up with the binding molecule, thereby recovering a PCR product;

(iii) denaturing the PCR product to obtain a single-stranded PCR product;

(iv) mixing sequences D1n' labeled and D0n' labeled, thereby hybridizing the single strand with the sequences D1n' and D0n';

(v) ligating the sequences D1n' to D0n';

(vi) denaturing the ligated sequence to obtain a single-stranded D1n'-D0n' sequence with the marker substance; and

(vii) hybridizing the sequences D01-D0n with the single-stranded sequence labeled with maker substance, to detect or quantify the marker substance, thereby detecting or quantifying the target nucleic acid.

20.(New) The method according to claim 18, wherein the probe B has the sequence S' and a flag comprising three units and bound to the sequence S', where the three units are SD, D0 and ED each having a desired sequence and connected to each other in the form of SD+D0+ED.

21.(New) The method according to claim 18, wherein said step (h) is performed by the sequence D01-D0n immobilized to a DNA capillary.

22.(New) The method according to claim 18, wherein, in said step (d), said substance is immobilized to beads such that the probe (A+B) is recovered by binding the probe (A+B) to the beads via the binding molecule.

23.(New) The method according to claim 18, wherein said marker substance is a fluorescent substance such that the target nucleic acid is detected or quantified by quantifying the fluorescent substance.

24.(New) The method according to claim 18, wherein each of the units of the flag is an orthonormal nucleotide sequence.

25.(New) The method according to claim 18, wherein said flag is a double stranded sequence.

26.(New) A method of detecting or quantifying a target nucleic acid having a predetermined sequence in a specimen comprising:

(a) preparing a probe A and a probe B,

said probe A being a first probe which has a sequence F' complementary to a first partial sequence F of the target nucleic acid and a binding molecule bound to the sequence F'; and

said probe B being a second probe which has a sequence S' complementary to a second partial sequence S of the target nucleic acid and a flag bound to the sequence S' wherein said flag comprises four units SD, D0, D1, and ED, each having a desired sequence, and linked in the form of SD+D0+D1+ED;

(b) hybridizing the first probe A with the first partial F of the target nucleic acid and hybridizing the second probe B with the second partial sequence S of the target nucleic acid by mixing the first probe A, the second probe B, and the specimen;

(c) ligating the first probe A and the second probe B both being hybridized with the target nucleic acid, thereby obtaining a probe (A+B);

(d) binding the binding molecule to a substance which is paired up therewith, thereby recovering the probe (A+B);

(e) hybridizing nucleic acids constructing the flag with a primer, which is a complementary sequence of the sequence D1 and labeled with a marker substance;

(f) subjecting the primer hybridized above to an extension reaction to make a double-stranded sequence;

(g) denaturing the double stranded sequence including the primer extended above to obtain single-stranded sequences; and

(h) hybridizing the primer extended specifically with the sequence D01 to detect or quantify the marker substance, thereby detecting or quantifying the target nucleic acid.

27.(New) The method according to claim 26, wherein said target nucleic acid is any one of target nucleic acids 1-n (n is an integer of 2 or more), said probe A is any one of the probe groups A1 to An (n is an integer of 2 or more), said probe B is any one of the probe groups B1 to Bn (n is an integer of 2 or more), said partial sequence F is any one of partial sequences F1 to Fn (n is an integer of 2 or more), said sequence F' is any one of the partial sequences F1' to Fn' (n is an integer of 2 or more), said partial sequence S is any one of partial sequences S1 to Sn (n is an integer of 2 or more), said partial sequence S' is any one of the partial sequences S1' to Sn' (n is an integer of 2 or more), said D0 is any one of D01 to D0n (n is an integer of 2 or more),

said sequence D1 is any one of D11 to D1n (n is an integer of 2 or more) and said probe (A+B) is any one of probe groups (A1+B1) to (An+Bn) (n is an integer of 2 or more).

28.(New) The method according to claim 27, wherein the probe B has the sequence S' and a flag comprising three units and bound to the sequence S', where the three units are SD, D0 and ED each having a desired sequence and connected to each other in the form of SD+D0+ED.

29.(New) The method according to claim 27, wherein said step (h) is performed by the sequence D01-D0n immobilized to a DNA capillary.

30.(New) The method according to claim 27, wherein, in said step (d), said another substance is immobilized to beads such that the probe (A1+B1) to (An+Bn) is recovered by binding the probe (A1+B1) to (An+Bn) to the beads via the binding molecule.

31.(New) The method according to claim 27, wherein said marker substance is a fluorescent substance such that the target nucleic acid is detected or quantified by quantifying the fluorescent substance.

32.(New) The method according to claim 27, wherein each of the units of the flag is an orthonormal nucleotide sequence.

33.(New) The method according to claim 27, wherein said flag is a double stranded sequence.